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MARK ISON RECKAMP, PC
PO BOX 06229
WACKER DR
CHICAGO IL 60606-0229

TM02/0907

EXAMINER

HARRISON, C

ART UNIT

PAPER NUMBER

2672

DATE MAILED:

09/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Best Available Copy

Office Action Summary

Application No.

09/272,069

Applicant(s)

GLEN, DAVID I.J.

Examiner

Chante Harrison

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 18 March 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-14, 19 is/are rejected.
- 7) ☐ Claim(s) 15, 16 and 18 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-9, 14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Mukai, U.S. Patent 5,359,702, 10/1994, 345/600.

As per independent claim 1, Mukai discloses a plurality of lookup tables (FIG. 1 '44'; col. 6, ll. 28-33), each table provides a set of output data in response to received input (col. 6, ll. 28 et seq.) and selecting output data in one of the tables (col. 6, ll. 43 et seq.).

As per dependent claim 2, Mukai discloses the tables include a pass through function that provides the received input data as the set of output data (col. 5, ll. 35 et seq.).

As per dependent claim 3, Mukai discloses each of the plurality of tables stores a plurality of set of output data (col. 6, ll. 28-33), each set of output data corresponds to a

gamma correction curve for a corresponding gamma value of the plurality of gamma values (col. 6, ll. 28 et seq.), the correction curve maps values of the received input to output values (col. 5, ll. 20 et seq.).

As per dependent claim 4, Mukai discloses pixel data is provided as received input to each of the gamma correction tables (FIG. 1), the table selector comprising a multiplexor (FIG. 1 '26') that receives the sets of output data from the plurality of gamma correction lookup tables (col. 7, ll. 45 et seq.), a set of output data is selected based on the gamma selection (col. 6, ll. 28 et seq.).

As per dependent claim 5, Mukai discloses the gamma correction tables are memory structures addressed by the received input data (col. 7, ll. 45 et seq.).

As per independent claim 6, Mukai discloses the tables storing plural gamma correction curves (col. 6, ll. 28-33), the plurality of sets of gamma corrected data includes data for each of the plurality of correction curves (col. 6, ll. 28 et seq.; FIG. 5a). The rejection as applied to independent claim 1 is included herein.

As per independent claim 7, Mukai discloses the table receives input signals that select a set of data from the table (col. 6, ll. 10-20, 28-34), the first portion of the signal selects a particular correction curve (col. 6, ll. 28-34) and the second portion of the signal selects the corrected data from the particular curve (col. 6, ll. 34 et seq.).

As per independent claim 8, Mukai discloses selecting output data in one of the tables (col. 6, ll. 28 et seq.). The rejection as applied to claim 7 is included herein.

As per independent claim 9, Mukai discloses storing a plurality of precomputed gamma corrected data sets corresponding to gamma curves (col. 5, ll. 55-56; col. 5-6, ll. 65-5) and selecting output data in one of the tables (col. 6, ll. 28 et seq.).

As per independent claim 14, Mukai discloses a frame buffer (FIG. 1 '38'). The rejection as applied to independent claim 9 is included herein.

As per independent claim 17, Mukai discloses receiving pixel data (FIG. 1, '12'). The rejection as applied to independent claim 9 is included herein.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukai, U.S. Patent 5,359,702, 10/1994, 345/600.

As per independent claim 10, Mukai discloses storing slope and offset data corresponding to piecewise linear segments approximating a gamma correction curve (col. 6, ll. 44 et seq.; FIG. 3), the lookup table receives data that selects a gamma curve (col. 6, ll. 10 et seq.), the lookup table receives pixel data that selects a segment slope and offset corresponding to a linear segment approximating a portion of a selected gamma curve (col. 6, ll. 10 et seq.) and produces an approximation to a value on the selected gamma curve by combining the offset and the value on the linear segment (col. 7, ll. 10 et seq.). Mukai fails to disclose an arithmetic block however it would have been obvious to one of skill in the art to use his disclosure because he interfaces his control unit which receives and processes input data with a device table memory which combines the control input data with the lookup table data to produce the corrected gamma.

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As per dependent claim 11, Mukai discloses multiplying the slope by a second portion of the pixel data to produce a value on the selected linear segment (col. 8, ll. 39 et seq.), produces an approximation to a value on the selected gamma curve by combining the offset and the value on the linear segment (col. 7, ll. 10 et seq.). Mukai fails to disclose a multiplier and adder however it would have been obvious to one of skill in the art to use his disclosure because he interfaces his control unit which receives and processes input data with a device table memory which combines the control input data with the lookup table data to produce the corrected gamma.

As per dependent claim 12, Mukai disclose the lookup table is a read only memory (col. 7, ll. 50 et seq.).

As per dependent claim 13, Mukai discloses the lookup is RAM (col. 7, ll. 20 et seq.).

As per independent claim 19, Mukai discloses providing pixel data to a lookup table (FIG. 1), multiplying the slope by a second portion of the pixel data to produce a value on the selected linear segment (col. 8, ll. 39 et seq.). The rejection as applied to independent claim 10 is included herein.

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Claims 15-16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chante Harrison whose telephone number is 703-305-3937.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at 703-305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



MATTHEW LUU
SENIOR EXAMINER